UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/469,122	12/21/1999	FRANCESCO LEMMI	XER2292D/995	4551

7590 07/02/2002

MARK S. SVAT
FAY SHARPE FAGAN MINNICH & MCKEE LLP
1100 SUPERIOR AVENUE
SEVENTH FLOOR
CLEVELAND, OH 441142518

EXAMINER	
CHU, CHRIS C	
ART UNIT	PAPER NUMBER
2815	

DATE MAILED: 07/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/469,122	Applicant(s) LEMMI ET AL.	
	Examiner Chris C. Chu	Art Unit 2815	

-- The MAILING DATE f this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 6, 8, 9, 11 - 28* is/are pending in the application.

4a) Of the above claim(s) *27 and 28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 6, 8, 9, 11 - 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 December 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. The amendment filed on March 26, 2002 has been received and entered in this office action.

Election/Restrictions

2. Newly submitted claims 27 and 28 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the claims 27 and 28 are drawn to a method of calibrating a printing system, especially, claim 27 recites the following sentence, "storing digital image data from a source external to a driver chip in a high frequency shift-register." This requires a search in specific subclasses of Class 438. However, the invention originally claimed does not have the above limitation, which requires to search the specific subclasses of Class 438.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 27 and 28 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both chip and laser printbar (read page 21, lines 7 of instant invention). Correction is required.

Further, applicant argues "[A]pplicants submit they have amended the specification to address this issue." The argument is not persuasive because the correction is not shown in any of the amendments.

4. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "substantially" is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for

ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1 ~ 6, 8, 11, 17 ~ 22, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. in view of Smith et al.

Regarding claim 1, Ogura et al. discloses in Fig. 28 a hybrid device comprising:

- a substrate (2);
- a micro-spring interconnect (1a) formed on the substrate (see Fig. 28), and
- a sensor (1) formed on the substrate (see Fig. 28), the sensor including an active layer and contacts (see Fig. 10A and Fig. 28), said active layer configured to sense light (column 8, lines 37 ~ 45) and at least partially transparent to light at selected wavelengths,
- said micro-spring interconnect and said sensor being integrated on the substrate (see Fig. 28).

Ogura et al. does not disclose expressly that the micro-spring interconnect including, an elastic material that is operatively associated with a surface of the substrate including, an anchor

portion fixed to the substrate, and a free portion spaced from the substrate. Smith et al. discloses the micro-spring interconnect (15 in Fig. 6) including, an elastic material (read Abstract) that is operatively associated with a surface of the substrate including, an anchor portion fixed to the substrate, and a free portion spaced from the substrate (see Fig. 6 and read Abstract). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the elastic material that is initially fixed to a surface on the substrate including, an anchor portion, and a free portion of Smith et al. with the micro-spring interconnect of Ogura et al. The suggestion or motivation for doing so would have been to provides finer-pitch contact arrays than solder-bump flip-chip bonding (column 3, lines 2 ~ 4).

Regarding claim 2, note Fig. 10A of Ogura et al., where the reference shows the hybrid device further includes at least one of a single light source (3), an array of lasers, and an array of light emitting diodes (LEDs) (column 1, lines 47 ~ 48), positioned to emit light at least a portion of light through at least a portion of the sensor (see Fig. 10A).

Regarding claim 3, Ogura et al. discloses the sensor is designed and aligned with at least one of the laser array and the LED array, to receive the emitted light from at least one of, some of the lasers of the laser array and some of the LEDs of the LED array (see Fig. 10A).

Regarding claim 4, Ogura et al. discloses the sensor is designed and aligned with at least one of the laser array and the LED array to receive and pass substantially all of the emitted light from a portion of at least one of the laser array and the LED array (see Fig. 10A).

Regarding claim 5, Ogura et al. discloses the substrate is designed and aligned with at least one of the laser array and the LED array to receive and pass substantially all of the emitted light from a portion of at least one of the laser array and the LED array (see Fig. 10A).

Regarding claim 6, Ogura et al. discloses the sensor is an array of sensors (column 17, lines 30 ~ 33).

Regarding claim 8, Ogura et al. discloses the sensor (1 in Fig. 23B) and the micro-spring interconnect (1a in Fig. 28) are comprised of materials which allow for integration of the micro-spring interconnect and the sensor on the single substrate during a manufacturing process (see Fig. 28), wherein at least one of the materials for the micro-spring interconnect and the sensor is the same (6 in Fig. 16 and column 9, lines 63 ~ 67, column 10, lines 1 ~ 8 and column 10, lines 38 ~ 39).

Regarding claim 11, Ogura et al., as modified, discloses the elastic material (15 in Fig. 6) is a stressed metal layer having sub-layers of differing stress gradients (see Fig. 6).

Regarding claims 17 and 22, note Fig. 28 of Ogura et al., where the reference shows a hybrid device comprising: a substrate (2); a micro-spring interconnect (1a) formed on the substrate (see Fig. 28), and a sensor (1) formed on the substrate (see Fig. 28), in an integrated manner, with the micro-spring interconnect (see Fig. 28), the sensor including an active layer and contacts (see Fig. 10A and Fig. 28), wherein said substrate, and said sensor are at least partially transparent to light at the wavelength emitted by at least one of the laser or the LED device (column 16, lines 45 ~ 46); and said at least one of the laser or the LED device (3 in Fig. 10A) and said substrate (2) with said sensor (1) and said at least one micro-spring interconnect (1a in Fig. 28) being separately fabricated and aligned (see Figs. 10A and 28), such that at least a portion of the light emitted by the at least one of the laser and LED device (3 in Fig. 10A) is directed through at least a portion of the substrate and the sensor (see Figs. 10A and 28). Ogura et al. does not disclose expressly that the micro-spring interconnect including, an elastic material

operatively associated with a surface of the substrate including, an anchor portion fixed to the substrate, and a free portion spaced from the substrate. Smith et al. discloses the micro-spring interconnect (15 in Fig. 6) including, an elastic material (read Abstract) operatively associated with a surface of the substrate including, an anchor portion fixed to the substrate, and a free portion spaced from the substrate (see Fig. 6 and read Abstract). Ogura et al. and Smith et al. are analogous art because they are from the same field of endeavor, that is the photoelectric device. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the elastic material that is initially fixed to a surface on the substrate including, an anchor portion fixed to the substrate, and a free portion of Smith et al. with the micro-spring interconnect of Ogura et al. The suggestion or motivation for doing so would have been to provides finer-pitch contact arrays than solder-bump flip-chip bonding (column 3, lines 2 ~ 4). Further, the phrase "at least one of a laser or LED device capable of emitting light at a certain wavelength" has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

Regarding claim 18, Ogura et al. discloses at least a portion of the laser or the LED device (3 in Fig. 10A) is a plurality of lasers or LEDs formed in a laser or LED array (column 1, lines 47 ~ 48).

Regarding claim 19, Ogura et al. discloses the sensor is sized such that each of the lasers or LEDs emit light at least partially through the sensor (see Fig. 10A).

Regarding claim 20, Ogura et al. discloses the sensor is a plurality of sensors (column 17, lines 30 ~ 33), sized such that a sub-group of the lasers or the LEDs may emit light through selected ones of the sensors (see Fig. 10A).

Regarding claim 21, Ogura et al. discloses the lasers or LEDs are arranged as a printbar, and the micro-spring interconnect is in electrical contact with the printbar (see Fig. 28).

Regarding claim 25, Ogura et al. discloses the light source (3 in Fig. 10A) is a printbar having an array of light sources (column 1, lines 47 ~ 48), and wherein the printbar is controlled to activate the light sources in a sequential manner to obtain calibration data to be stored in the driver (see Fig. 23B).

Regarding claim 26, note Fig. 10A of Ogura et al., where the reference shows a hybrid device comprising: a micro-spring interconnect structure (1a in Fig. 28); and at least two devices electrically connected (read column 17, lines 34 ~ 56) by the interconnect structure wherein, one of the devices is a sensor (1), the sensor including an active layer and contacts (see Figs. 10A and 28; read column 8, lines 37 ~ 45), said active layer sensing light (column 8, lines 37 ~ 45), and another one of the devices is at least one of a single light source (3 in Fig. 10A), an array of lasers, and an array of light emitting diodes (LEDs), positioned to emit light at least partially through the sensor (see Fig. 10A).

9. Claims 9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. in view of Smith et al. as applied to claim 1 above, and further in view of Yamazaki et al.

Ogura et al., as modified, discloses the claimed invention except for the sensor is comprised of, a first transparent/conductive layer; an active layer on top of the first transparent/conductive layer; a second transparent/conductive layer on top of the active layer; a passivation/release layer located over at least the first transparent/conductive layer and the second transparent/conductive layers; and a metal layer connecting to the first and second transparent/conductive layers through the vias, wherein the metal layer acts as signal lines to receive and carry signals from the active layer. However, note Fig. 2(D) of Yamazaki et al., where the reference shows that the sensor is comprised of, a first transparent/conductive layer (2); an active layer (3) on top of the first transparent/conductive layer (see Fig. 2(D)); a second transparent/conductive layer (23) on top of the active layer (see Fig. 2(D)); a passivation/release layer (21) located over at least the first transparent/conductive layer and the second transparent/conductive layers (see Fig. 2(D)); and a metal layer (5) connecting to the first and second transparent/conductive layers through the vias, wherein the metal layer acts as signal lines to receive and carry signals from the active layer. Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to further modify Ogura et al. by including the sensor is comprised of, a first transparent/conductive layer; an active layer on top of the first transparent/conductive layer; a second transparent/conductive layer on top of the active layer; a passivation/release layer located over at least the first transparent/conductive layer and the second transparent/conductive layers; and a metal layer connecting to the first and second transparent/conductive layers through the vias, wherein the metal layer acts as signal lines to receive and carry signals from the active layer as taught by Yamazaki et al. The ordinary

artisan would have been motivated to further modify Ogura et al. in the manner described above for at least the purpose of eliminating short circuit current paths in the sensor.

Regarding claim 12, Ogura et al., as modified, discloses the sensor further includes an absorption layer, located immediately over the sensor, wherein the absorption layer absorbs unwanted light prior to being detected by the active layer (column 3, lines 31 ~ 47 of Yamazaki et al.).

Regarding claim 13, Ogura et al., as modified, discloses the active layer is a three layer element, wherein a first layer is a n+ doped amorphous silicon, the first layer being one of, but not limited to n+ phosphorous-doped amorphous silicon and n+ arsenic-doped silicon; wherein a second layer is an intrinsic amorphous silicon; wherein a third layer is a p+ doped amorphous silicon, the third layer being, but not limited to, p+ boron-doped amorphous silicon (column 3, lines 11 ~ 21 of Yamazaki et al.). Further, since Yamazaki et al. does not limit the p-type semiconductor layer and crystalline semiconductor layer to any particular or specific semiconductor material, his disclosure encompasses all well known semiconductor layer's including "n+ doped amorphous silicon, n+ phosphorous-doped amorphous silicon, n+ arsenic-doped silicon, p+ doped amorphous silicon, and p+ boron-doped amorphous silicon."

10. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. in view of Smith et al. as applied to claim 1 above, and further in view of Sekiguchi.

Ogura et al., as modified, discloses the claimed invention except for a switch is located, between the sensor and the substrate, such that the sensor is an active semi-continuous sensor. However, note Fig. 6 of Sekiguchi, where the reference shows that a switch (100) is located,

between the sensor and the substrate (see Fig. 6), such that the sensor is an active semi-continuous sensor. Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to further modify Ogura et al. by including a switch between the sensor and the substrate as taught by Sekiguchi. The ordinary artisan would have been motivated to further modify Ogura et al. in the manner described above for at least the purpose of increasing efficient utilization of the sensor. Further, as to the language on lines 2 ~ 3, "such that the sensor is an active semi-continuous sensor", applicant should note that this is merely "result or function" language which cannot be relied upon to define over Ogura et al. in view of Sekiguchi, since Ogura et al., as modified, discloses all of the claimed elements and their recited relationships. Moreover, the examiner will presume that the recited results are inherent in Ogura et al., as modified, since all of the claimed elements and the relationships therebetween are met by Ogura et al. in view of Sekiguchi. If the recited result or function is not inherent in Ogura et al., as modified, then this would mean that applicant has failed to recite one or more critical features of the present invention (i.e., a problem under 112, first paragraph).

Regarding claim 15, Ogura et al., as modified, discloses the switch is a thin-film-transistor (TFT) (column 11, line 31 of Sekiguchi).

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. in view of Smith et al. as applied to claim 1 above, and further in view of Yamada et al.

Ogura et al., as modified, discloses the claimed invention except for the micro-spring interconnect is a plurality of micro-spring interconnects. However, note Fig. 1 of Yamada et al., where the reference shows that the micro-spring interconnect is a plurality of micro-spring

interconnects (1 - 6). Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to further modify Ogura et al. by including a plurality of micro-spring interconnects as taught by Yamada et al. The ordinary artisan would have been motivated to further modify Ogura et al. in the manner described above for at least the purpose of increasing speed of the device.

12. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. in view of Smith et al. as applied to claim 22 above, and further in view of Rajeswaran.

Ogura et al., as modified, discloses the claimed invention except for the driver chip further include: a comparator for comparing a sensor readout current from the sensor and a reference current; a converter arrangement which converts the output of the comparator into digital data representing characteristics of the light source; a set of low frequency shift registers configured to receive and store the digital data; an activation signal selectively supplied to the light source, the activation signal designed to control operation of the light source to selectively emit light therefrom; a driver designed to interpret the digital data as activation signal correction information for the activation signal; a high frequency shift-register configured to receive and store digital image data from a source external to the driver chip; and an enable/disable output signal from the high frequency shift-register to selectively supply the activation signal and light source correction information to the light source, whereby an amount of light emitted by the light source is controlled. However, note Fig. 12 of Rajeswaran, where the reference shows that the driver chip further include: a comparator (53) for comparing a sensor readout current from the sensor and a reference current (see Fig. 12); a converter (57) arrangement which converts the

output of the comparator into digital data representing characteristics of the light source (column 9, lines 48 ~ 54); a set of low frequency shift registers (52) configured to receive and store the digital data; Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to further modify Ogura et al. by including a comparator, a converter, and a registers as taught by Rajeswaran. The ordinary artisan would have been motivated to further modify Ogura et al. in the manner described above for at least the purpose of increasing efficient of the device. Further, as to the language on lines 13 ~ 24, "an activation signal selectively supplied to the light source, the activation signal designed to control operation of the light source to selectively emit light therefrom; a driver designed to interpret the digital data as activation signal correction information for the activation signal; a high frequency shift-register configured to receive and store digital image data from a source external to the driver chip; and an enable/disable output from the high frequency shift-register to selectively supply the activation signal and light source correction information to the light source, whereby an amount of light emitted by the light source is controlled" applicant should note that this is merely "result or function" language which cannot be relied upon to define over Ogura et al. in view of Rajeswaran, since Ogura et al., as modified, discloses all of the claimed elements and their recited relationships. Moreover, the examiner will presume that the recited results are inherent in Ogura et al., as modified, since all of the claimed elements and the relationships therebetween are met by Ogura et al. in view of Rajeswaran. If the recited result or function is not inherent in Ogura et al., as modified, then this would mean that applicant has failed to recite one or more critical features of the present invention (i.e., a problem under 112, first paragraph). Furthermore,

it has been held that the functional "whereby" statement does not define any structure and accordingly can not serve to distinguish. In re Mason, 114 USPQ 127, 44 CCPA 937 (1957).

Regarding claim 24, Ogura et al., as modified, discloses the digital image data from the source external to the driver chip is supplied as high frequency bit stream data (column 7, lines 48 ~ 60).

Response to Arguments

13. Applicant's arguments filed on March 26, 2002 have been fully considered but they are not persuasive.

On page 13, applicant argues "due to the construction of the sensor and substrate being transparent at desired wavelengths." The argument is not persuasive because Ogura et al. discloses in column 6, lines 44 ~ 46 sensor (1) comprising a transparent substrate and column 7, lines 28 ~ 55 substrate (2) is made of synthetic resin, which is transparent material.

Further, applicant argues "the sensor of Ogura et al. is designed only to sense reflected light." And applicant further argues "[I]n claim 17, it is recited that the sensor is at least partially transparent to light at the wavelength emitted by at least one of the laser of LED device. It is further noted that the light emitted is directly through at least a portion of the substrate and the sensor." The argument is not persuasive. Applicant should note that how the inside circuit of Ogura et al.'s sensor work does not differentiate the Ogura et al.'s sensor with claimed sensor. Because sensor is a device that responds to a physical stimulus (as heat, light, sound, pressure, magnetism, or a particular motion) and transmits a resulting impulse (as for measurement or

operating a control) (**Merriam-Webster's Collegiate Dictionary**, 10th ed., page 1063). Ogura et al.'s sensor (1) is a device that responds to a physical stimulus (light) and transmits a resulting impulse. Therefore, reference number (1) in Ogura et al. is a sensor that receives a direct light from a LED device or laser.

For the above reasons the rejection is maintained.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is (703) 305-6194. The examiner can normally be reached on M-F (10:30 - 7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Chris C. Chu
Examiner
Art Unit 2815

c.c.
July 1, 2002

EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800